



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,596	03/24/2006	Eric Lecolier	61246069X00	2796
20457	7590	01/12/2007	EXAMINER	
ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873			LEONARD, KERRY W	
		ART UNIT	PAPER NUMBER	
		3676		

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/573,596	LECOLIER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Kerry W. Leonard	3676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) 1-8 is/are rejected.
- 7) Claim(s) \_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>5-12-06</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|  | 6) <input type="checkbox"/> Other: ____.                          |

## DETAILED ACTION

### ***Claim Objections***

1. Claim 2 is objected to because of the following informality: in the phrase "...sulphonate and/or a polyxyethylene...", the term "and/or" appears. This is not acceptable claim language. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claim 2 recites the limitation "hydrosoluble polymer" in the first line of the claim. There is insufficient antecedent basis for this limitation in the claim.
4. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely

exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 3 recites the broad recitation "...water content is below 30%...", and the claim also recites "...in particular equal to 27%" which is the narrower statement of the range/limitation.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over VILLAR et al. (US 6,060,535) in view of NOIK et al. (US 6,332,920 B1).

With respect to claim 1, VILLAR discloses a cementing slurry comprising an aluminous cement the alumina content of which is at least 30%; a microsilica with a granulometry in the range 0.1 to 20  $\mu\text{m}$  the percentage of which is less than 35% by weight with respect to the weight of cement; mineral particles with a granulometry in the range 0.5 to 500  $\mu\text{m}$  the percentage of which is less than 35% by weight with respect to the cement, the percentage of said particles remaining below the percentage of said microsilica; a retarding agent to control the setting time of the slurry; water in a quantity of at most 40% with respect to the cement (column 2, lines 32-35 and 53-67, column 3, lines 18-24, column 4, lines 31-36). With respect to claim 2, the reference discloses a

Art Unit: 3676

slurry in which the hydrosoluble polymer is a polynaphthalene sulphonate and/or a polyxyethylene polycarboxylate (column 4, lines 57-67). However, the reference fails to teach a hydrosoluble fluidifying agent the percentage of which is in the range 0.2% to 3% with respect to the weight of cement or a slurry wherein the water content is below 30%, in particular equal to 27%.

NOIK teaches a cementation slag that comprises a water-soluble agent present in 0.25%, 0.7%, and 1.8% weight that is used for the purpose of liquefying the cement mixture (Example II and IV) so that a lower amount of water, equal to 27%, can be utilized (Example IV, Formulation A).

It would therefore be considered obvious to one having ordinary skill in the art at the time the invention was made to utilize water and the hydrosoluble polymer in the invention of VILLAR in the concentrations present in the invention of NOIK in order to liquefy the cement mixture and reduce the amount of water required to achieve a desired viscosity.

7. Claims 1-3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over NOIK et al. (US 6,332,920 B1) in view of VILLAR et al. (US 6,060,535).  
NOIK discloses a cementing slurry comprising a microsilica with a granulometry in the range 0.1 to 20  $\mu\text{m}$  the percentage of which is less than 35% by weight with respect to the weight of cement; mineral particles with a granulometry in the range 0.5 to 500  $\mu\text{m}$  the percentage of which is less than 35% by weight with respect to the cement, the percentage of said particles remaining below the percentage of said microsilica; a

Art Unit: 3676

hydrosoluble fluidifying agent the percentage of which is in the range 0.2% to 3% with respect to the weight of cement; a retarding agent to control the setting time of the slurry; water in a quantity of at most 40% with respect to the cement (Examples I-IV).

With respect to claim 2, the reference discloses a slurry in which the hydrosoluble polymer is a polynaphthalene sulphonate and/or a polyxyethylene polycarboxylate (column 3, lines 35-41). With respect to claim 3, the reference discloses a slurry wherein the water content is below 30%, in particular equal to 27% (Examples II-IV). However, while the reference states that the cement consists of a hydraulic binder, the reference fails to specify that the cement comprises an aluminous cement with an alumina content of at least 30%. With respect to claim 8, the reference discloses a method for using the slurry comprising cementing a well in an acidic environment (column 1, lines 5-34).

VILLAR teaches a cement composition as stated above (see paragraph 6 above) wherein the cement comprises an alumina content of greater than 40% for the purpose of reducing the amount of time necessary for the cement to reach its final strength in the formation (column 2, lines 63-67).

It would therefore be considered obvious to one having ordinary skill in the art at the time the invention was made to utilize an aluminous cement, like the ones specified by VILLAR, in the composition of NOIK in order to accelerate the curing process of the cement in the subterranean formation.

8. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over NOIK in view of VILLAR as applied to claims 1-3 above, and further in view of ZHANG (US 6,417,268 B1).

NOIK in view of VILLAR discloses a cementing compound as discussed above (see paragraph 7 above). While NOIK discusses the use of a liquefier containing sulphonated or phosphatized groups, the reference fails to teach an associative polymer containing hydrophilic motifs Hy and hydrophobic motifs Hb containing C1 to C30 alkyl, aryl, or alkyl-aryl groups or that the polymer has a molecular mass in the ranges specified and a number of hydrophobic motifs Hb in the range 0.5% to 60%.

ZHANG teaches methods for forming associative polymers containing that contain sulphonated or phosphatized groups with hydrophobic and hydrophilic motifs with the desired molecular masses and percentages that are used in cementitious compositions for secondary and tertiary oil recovery processes for the purpose of aiding in mobility control (abstract and columns 7-9, especially column 8, lines 2-3, column 10, line 61).

It would therefore be considered obvious to one having ordinary skill in the art at the time the invention was made to utilize sulphonated or phosphatized liquefiers as shown by NOIK that were formed by the methods of ZHANG that contain the desired hydrophobic and hydrophilic groups in order to liquefy the cement mixture and reduce the amount of water necessary for the mixture to reach a desired viscosity.

Art Unit: 3676

9. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over NOIK in view of VILLAR as applied to claims 1-3 above.

NOIK in view of VILLAR discloses a cementing compound as discussed above (SEE PARAGRAPH). While NOIK discusses the use of a liquefier containing sulphonated or phosphatized groups comprising 1.8% wt. and 0.25% wt. (Examples II and IV), the reference fails to teach that it comprises exactly 0.5% wt. of the fluidifying and associate polymers. Due to the absence of evidence stating the criticality of the fluidifying agent weight percent listed in the claims, it is considered an obvious expedient to provide a fluidifying polymer or associative polymer in the weight percent that will yield the desired viscosity and fluid properties in the cementing mixture.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kerry W. Leonard whose telephone number is 571-272-8133. The examiner can normally be reached on Monday-Friday, 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian E. Glessner can be reached on 571-272-6843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KWL



BRIAN E. GLESSNER  
SUPERVISORY PATENT EXAMINER